

Local Work Instruction:**Transocean Polar Pioneer: Chemical Inventory and Additives Use Management**

Approved By:
Scope:
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Written By: Jeff Kidneigh
Revised By: D. Johnson
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SCOPE:

This Local Work Instruction (LWI) provides a consistent methodology for tracking all chemical use onboard the Transocean *Polar Pioneer* during drilling programs subject to the stipulations and requirements of the *Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Exploration Facilities on the Outer Continental Shelf in the Chukchi Sea (Permit No.: AKG-28-8100)*. The purpose is to properly account for all chemicals or chemical additives that have been brought on-board, used for the intended purpose or removed during drilling operations specific to the requirements of the General Permit.

The LWI also outlines the proper procedures if and when such chemicals are used. The goal is to ensure that any chemicals or chemical additives that are not permitted under the stipulations of the General Permit do not end up in one of the regulated discharge streams. In addition, this LWI outlines how concentrations of these chemical or chemical additives will be tracked and documented or otherwise be accounted for in regards to the specific and applicable discharges (D001 through D013).

DEFINITIONS:

After Action Review (ARR) - a process of reviewing an activity and capturing lessons learned.

Biocide - a chemical substance or microorganism which can deter, render harmless, or exert a controlling effect on any harmful organism by chemical or biological means.

Lock Out/Tag Out (LO/TO) - a method of safely isolating a valve or electrical breaker so a pipe or circuit cannot be used or operated.

Master Chemical Inventory (MCI) - the complete list of the chemicals and quantities/volumes stored on the rig at any given time.

Mandatory Rig Specific Procedure (MSRP) - a rig specific procedure for doing a task that cannot be updated locally.

Permit to Work (PTW) - a written form which is completed and approved by an authorized person when a certain task has the potential to harm the environment, personnel or equipment. The PTW is completed concurrently with a *Work Risk*

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Assessment (WRA), a task START (See, Think, Act, Reinforce, and Track) card and other related documents.

Personal Protective Equipment (PPE) - refers to protective clothing, helmets, goggles, or other garment or equipment designed to protect the wearer's body from injury or unsafe exposure.

Rig Recommended Practice (RRP) - a rig specific procedure for doing a task that can be updated locally and can include lessons learned from AARs.

1.0 References:

- 1.0 NPDES General Permit AKG-28-8100.
- 1.1 Polar Pioneer Best Management Practices Plan, April 2015.
- 1.2 Polar Pioneer Quality Assurance Project Plan, April 2015.
- 1.3 Polar Pioneer Drilling Fluids Plan, January 2015.
- 1.4 Product Safety Data Sheet.
- 1.5 Transocean Master Chemical Inventory.
- 1.6 Transocean Control of Dangerous Goods protocols.
- 1.7 Transocean Alaska Compliance Manual.
- 1.8 M-I SWACO LWI - Chemical Inventory and Additives Use Management.
- 1.9 Shell Exploration & Production Company Alaska Venture 2015 Polar Pioneer Waste Management Plan.

2.0 Safety Guidelines:

- 2.0 Refer to chemical/product Safety Data Sheet for appropriate PPE requirements and guidelines.
- 2.1 Properly dispose all sample materials in the appropriate waste containers at the completion of the task.
- 2.2 Re-stow all containers used to collect samples after cleaning.
- 2.3 Re-stow all personal protective equipment after proper cleaning and decontamination.
- 2.4 Follow rig policies and procedures prior to using any chemical not permitted into a effluent discharge stream.
- 2.5 Comply with manufacturers usage recommendations and do not exceed suggested maximum concentration level.
- 2.6 If product or chemical is regulated by the EPA, follow all guidelines and maximum concentration limits.

3.0 Instructions for Non-Permitted Discharge Chemical Usage:

- 3.0 Complete PTW prior to task initiation and PTW signed by the Offshore Installation Manager or Drilling Foreman.
- 3.1 PTW must be shown to the Transocean Materials Coordinator prior to access to the chemical storage locker.
- 3.2 Any discharge stream that has the potential for a non-permitted substance to enter it must be locked out and tagged out following the RRP, LO/TO policies and

- procedures, in addition; a post AAR will be completed.
- 3.3 After work is complete in the area or on the equipment, the M-I SWACO NPDES Compliance Specialist will be notified to verify no chemical residue is present.
 - 3.4 Once verification is sanctioned from the M-I SWACO NPDES Compliance Specialist, personnel equipment may return to service.
 - 3.5 Close all permits and remove locks and tags following existing rig policies.

4.0 Tracking Products and Chemicals Used:

- 4.0 The M-I SWACO Drilling Fluid management software ONE-TRAX will be used to track inventory and usage of all products used in the drilling fluids (discharges 001 and 013). Concentration levels will also be tracked in ONE-TRAX and documented on the NPDES Daily Observation Report.
- 4.1 If chemicals are used in any other discharge stream, volumes and concentration levels will be documented onto the NPDES Master Spreadsheet. The maximum concentration and any other conditions specified in the EPA product registration labeling must not be exceeded.
- 4.2 If product or chemical does not have an EPA registration number, then the manufacturer's recommended maximum concentration limits will be used.
- 4.3 Prior to performing all cement operations, the chemical formula containing products and amounts will be provided to the M-I SWACO NPDES Compliance Specialist. After review and acceptance; this data will be entered onto the NPDES Master Spreadsheet.
- 4.4 All data collected on the NPDES Master Spreadsheet will be submitted to the Shell Environmental Department as needed and recorded on the End-of-Well file.

5.0 Shipping, Receiving and Storage of Products, Chemicals and Samples:

- 5.0 All collected samples will be preserved, labeled.
- 5.1 Prior to shipping of any analytical sample; all relevant Safety Data Sheets, Chain of Custody, manifests and other required shipping documents will be packed accordingly.
- 5.2 All hazardous material products and chemicals stored on-board will be properly stowed and segregated following applicable storage procedures. All hazardous material storage areas must properly signed and placarded.
- 5.3 The Safety Data Sheet for all stored hazardous materials products will be readily available and stationed in required areas throughout the rig.
- 5.4 The Offshore Installation Manager or Drilling Foreman must approve the storage or use of any non-permitted hazardous materials.
- 5.5 The Offshore Materials Coordinator, upon receiving any hazardous material, will verify receipt of the product, determine the proper storage location and ensure all required documents are included with shipment.
- 5.6 The Offshore Materials Coordinator is responsible for proper inventory control of all hazardous materials received on-board. All inventory lists will be up-dated and distributed to all affected parties on an appropriate basis. All new Safety

Data Sheets will be added to binders as appropriate.

6.0 Documentation of Chemical Usage:

<u>Discharge</u>	<u>Description</u>	<u>Company Responsible</u>	<u>Personnel Responsible</u>	<u>Form or Information Documentation</u>
D001	Muds and Cuttings	M-I SWACO	Mud Engineer/ Compliance Specialist	ONE-TRAX
D002	Deck Drainage	Transocean	Third Engineer/ Compliance Specialist	Third Engineer Log /NPDES Log
D003	Sanitary Waste	Transocean	Rig Maintenance Supervisor/ Compliance Specialist	Rig Maintenance Supervisor Log/NPDES Log/Ballast Report
D004	Domestic Waste	Transocean	Rig Maintenance Supervisor/ Compliance Specialist	Rig Maintenance Supervisor Log /NPDES Log
D005	Desalination Unit	Transocean	Rig Maintenance Supervisor/ Compliance Specialist	Rig Maintenance Supervisor Log /NPDES Log
D006	Blowout Preventer Fluid	Transocean	Senior Sub Sea Engineer/ Compliance Specialist	Senior Sub Sea Engineer Log/NPDES Log
D007	Boiler Blowdown	Transocean	Rig Maintenance Supervisor/ Compliance Specialist	Rig Maintenance Supervisor Log /NPDES Log
D008	Fire Control System Test Water	Transocean	Barge Engineer/ Compliance Specialist	Barge Engineer/NPDES Log
D009	Non-contact Cooling Water	Transocean	Rig Maintenance Supervisor/ Compliance Specialist	Rig Maintenance Supervisor Log /NPDES Log
D010	Uncontaminated Ballast Water	Transocean	Ballast Control Officer/ Compliance Specialist	Ballast Control Officer Log/NPDES Log/Ballast Report
D011	Bilge Water	Transocean	Rig Maintenance Supervisor/	Rig Maintenance Supervisor Log /NPDES

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			Compliance Specialist	Log/Ballast Report
D012	Excess Cement Slurry	Halliburton	Halliburton Lead/ Compliance Specialist	Halliburton Log/NPDES Log
D013	Muds, Cuttings, and Cement at the Seafloor	M-I SWACO	Mud Engineer/ Compliance Specialist	ONE-TRAX /NPDES Log

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7.0 Calculations:

Final product concentration: $[(IV-DV) \times IP + PA] = TV$

Initial Volume= IV

Discharged Volume= DV

Initial Product Concentration= IP, lb. / bbl

Product Additions= PA, lb.

TV= total volume

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